

On the Perlid Genus *Chloroperla*.

BY NATHAN BANKS.

The genus *Chloroperla* was first described by Newman in the third volume of the Entomological Magazine, page 500; the number for April, 1836. He separates the genus from *Perla* because the subcosta and costa are parallel, and on account of the few cross-veins in this region of the wing. He says that the genus includes several species, and mentions *Ch. viridis* Fabr., and *Ch. lutea* Latr., and describes a new form *Ch. apicalis*. In August, 1836, appeared part of Vol. VI, Mandibulata, of Stephens' well-known "Illustrations," containing, on page 137, the genus *Chloroperla* Newman MSS. This, however is not important as Newman's own publications of the name antedates Stephens by several months; so that the type of the genus must be found among the three names given by Newman. In 1839 (Mag. Nat. Hist., n. ser., Vol. III, p. 87) Newman again treats of the genus *Chloroperla*, dividing it into two sections, aberrant and normal species. Among the normal species are the three names of his first article; *viridis* Fabr., and *lutea* Latr., appearing as synonyms of *C. flava* Fourc., a possible synonym of *C. tripunctata* Scop. This synonymy is not accepted by European authors, and the three names of Newman's first paper on *Chloroperla* are reduced to *tripunctata* Scop. and *apicalis* Newm. Both of these species are placed in the genus *Isopteryx* by the European writers on Perlidæ. Therefore *Chloroperla* Newm., 1836, replaces *Isopteryx*, Pict. 1841. *Chloroperla* of authors has no synonyms; the species of *Leptomeres* Ramb., and *Dodecatoma* Dufour, are placed in *Isopteryx*. So the *Chloroperla* of Pictet and later authors is without a name.

In Bull. No. 47, N. Y. State Museum, 1901, page 417, Mr. Needham divides the family Perlidæ into two subfamilies—Perlinæ and Nemourinæ. He bases these groups on the condition of the median vein near base of wing; fused with the radius in the Nemourinæ, distinct and parallel to the radius in the Perlinæ. There are various exceptions to this rule in both groups, but especially among those forms previously placed in the genus *Chloroperla*. This character is not of suf-

ficient constancy to divide the family into two subfamilies, but I think it may well be used as of generic value to divide the *Chloroperla* of authors into two genera. I therefore do so, using the name *Isoperla* for those forms having the median vein extending basally parallel to the radius, and *Alloperla* for those forms having the median united to the radius at base. The *Perla bilineata* Say, will be the type of *Isoperla*, which includes also *transmarina* Newm., *montana* Bks., *5-punctata* Bks., *brunneipennis* Walsh, and *decolorata* Walk. The *Perla imbecilla* Say, will be the type of *Alloperla*, which includes also *coloradensis* Bks., *pacifica* Bks., *signata* Bks., *borealis* Bks., *brevis* Bks., *minuta* Bks., *marginata* Bks., and *pallidula* Bks. *Alloperla* differs chiefly from *Chloroperla* (*Isopteryx*) by having a folded anal space to the hind wings.

Notes on *Papilio ajax*.

By R. R. ROWLEY, Louisiana, Mo.

It is not the writer's intention in this paper to tire his readers with a lengthy description of the stages of larval growth, since these have been carefully worked out by others and the results published, but to record his observations on the habits of the larva and the imago, with the hope that young collectors at least may gather some inspiration from these notes.

Wherever papaw grows there *ajax* is usually abundant throughout much of the summer months and from late May to mid-September this fine swallow-tail may be seen flitting aimlessly though the bushes, rarely stopping for a moment.

Even when very abundant, it is not easy to take this "fly," and nine out of every ten are so injured as to be worthless for cabinet purposes. So fragile are the wing tails that they are often broken in the meshes of the net.

In June of 1900, a veritable *ajax* year, I took a great number of these butterflies by decoys. A few ragged specimens taken on the wing were killed and spread upon the ground and leaves of low bushes along a path through the papaw patch where they could be seen by the stream of flitting "flies" above.